1 CLAIMS

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3 What is claimed is:

4

5 1. An adaptive learning system for presenting an appropriate topic and question

6 to a user, said system comprising:

7

8 a processor configured to:

9

10 generate and store in a database a set of hierarchical topics having a plurality of

11 questions associated with each one of said topics; each of said plurality of

12 questions within a topic having an assigned difficulty level value;

13

14 determine an adjustable state level value for a user based on said user's topic

15 performance consistency; said state level initialized to and having a range of

16 predetermined value;

17

18 determine an adjustable water level value for said user based on said user's

19 proficiency in at least a subset of said hierarchical topics; said water level

20 initialized to and having a range of predetermined value;

1 determine a relevant topic for said user from said set of hierarchical topics by

2 performing the following:

3

4   cull said set of hierarchical topics to determine one or more eligible

5   academic topics; and

6

7   evaluate for relevance said one or more eligible academic topics using

8   heuristic relevance ranking to determine said relevant academic topic;

9

10 determine an appropriate question for said user from said plurality of relevant

11 academic topic questions by performing the following:

12

13   determine said user's water level,

14

15   search said database for one or more questions within a threshold range

16   from said user's water level,

17

18   randomly select a relevant question from this one or more questions

19

20   depending on the user's answer to said selected question, adjust said user's

21   water level according to a predetermined adjustment table.

1

2   2. The system as in claim 1 wherein said processor is further configured to

3   evaluate for relevance said one or more eligible academic topics using at least

4   one of a Average Level Relavance heuristic, Eligibility Relevance heuristic,

5   Static Multiplier Relevance heuristic, Contribution Relevance heuristic,

6   Learning Dimension Repetition Relevance heuristic, Failure Relevance

7   heuristic and Re-recommend Failure Relevance heuristic.

8

9   3. The system as in claim 1 wherein said processor further defines a multiplier

10   value m, said state level value is initialized to 3 and ranging from 1 to 6, said

11   water level value is initialized to 25 and ranging from 0 to 100 and said

12   predetermined adjustment table comprises:

State Level that said user is currently in:	Adjustment in water level when a question is answered correctly:	Adjustment of water level when a question is answered incorrectly:
1	$+0m$	$-5m$
2	$+1m$	$-3m$
3	$+1m$	$-2m$
4	$+2m$	$-1m$
5	$+3m$	$-1m$
6	$+5m$	$-0m$
m = Multiplier		

13

14

1   4. The system as in claim 1 wherein said difficulty level value ranges from 1 to

2   100;

3

4   5. The system as in claim 1 wherein said threshold range is from ±0 to ±5.

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6   6. The system as in claim 1 wherein said threshold range is greater than ±5.

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